



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D212-664-201
Job Sheet 168063



Part No: D212-664-201

Job Qty: 1 ea

Part Name: Aft Crosstube - High



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/9/17

Job Tracking No:

Due Date: 11/15/17

Created By: Linda Lacelle

Type: Stock

Description:

Customer: Rotorcraft Support Inc (CROTO01)

16425 Hart Street Van Nuys, CA, 91406 USA ph:(818) 997-7667 fx:(818) 997-1513.

Note: DWG DSI9563 REV B, D212-664-241 REV E IPP Rev:E 04.02.16 Reformat K/DS IPP Rev:F 06-03-29

Remove Comments on Pick List JLM IPP Rev:G 07-04-30 As per Rev C JLM IPP Rev:H 08-05-22 up date Qty of rubber cushion DD ver:EC IPP REV:I 14.05.27 AS PER ECN14-570 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup	Run	Workcenter / Supplier	Lead Time	
					hrs	Hrs			
90	Start up Operation	1 Ea	11/14/17	11/14/17	0.00	0.00	Start Up Crosstubes		GP
110	Packaging	1 pcs	11/14/17	11/14/17	0.00	0.00	Packaging1		GP
120	CNC Bend Crosstubes	1 pcs	11/14/17	11/14/17	0.00	4.44	CNC Bend Crosstube		GP/DP
130	QC	1 pcs	11/14/17	11/14/17	0.00	0.00	QC15		38
140	Crosstubes	1 pcs	11/14/17	11/14/17	0.00	4.99	Crosstube		9-89 DPZ
150	HandFXtube	1 pcs	11/14/17	11/14/17	0.00	1.25	HandFinish5		DAS DPZ
160	QC	1 pcs	11/14/17	11/14/17	0.00	0.00	QC7		38 DAS
170	QC	1 pcs	11/14/17	11/14/17	0.00	0.00	QC5		9-89 38
180	Outsource	1 pcs	11/14/17	11/14/17	0.00	0.00	Outsource2 P/O: 03864		02/18/2018 9-89
190	Packaging	1 pcs	11/14/17	11/14/17	0.00	0.00	Packaging2		AT 18/02/108
200	QC	1 pcs	11/14/17	11/14/17	0.00	0.00	QC5		38
210	SprayPaint	1 pcs	11/14/17	11/14/17	0.00	1.47	Spray Paint		DAS 02-08
220	QC	1 pcs	11/14/17	11/14/17	0.00	0.00	QC14		11 FEB 09 2018
230	Crosstubes	1 pcs	11/15/17	11/15/17	0.00	1.47	Crosstube		10 FEB 9 2018
240	QC	1 pcs	11/15/17	11/15/17	0.00	0.00	QC5	DAS	38
250	Packaging	1 pcs	11/15/17	11/15/17	0.00	0.00	Packaging1	6	FEB 14 2018
260	QC	1 pcs	11/15/17	11/15/17	0.00	0.00	QC4	9-99	M.A.
265	DC	1 pcs	11/15/17	11/15/17	0.00	0.00	DC		M.A.
270	Packaging	1 pcs	11/15/17	11/15/17	0.00	0.00	Packaging3		M.A.
280	QC21-FG	1 Ea	11/15/17	11/15/17	0.00	0.00	QC21		DAS FEB 20 2018

Part Op 120 - ***VERF SET-UP BEFORE BENDING BY: _____

*** Bend tube as per Dwg D212-664-241 using

Descriptions: CNC bender program 212-aft

140 - 1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550, DT8551, drill table DT8577 and locate tower holes #8 as per QSI0010. 2-Ream hole to finish size in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241 4- ***WEAR LATEX GLOVES HANDLING CROSSTUBE.*** Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

150 - ***IMMEDIATELY AFTER GRINDING***

180 - ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: _____

190 - ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.***

200 - ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Inspect for damage & ensure results are as per

DART
AEROSPACE

S037554



Aft Crosstube - High

1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

PART NO: D212-664-201
Original Serial #: S037554

Revision:
Operation:
Change No:

Start up Operation
CHG006

01/31/18
Job No: 168063

Dwg D212-664-241

210 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

Primer: 138687 Clear: P.O. 38689

220 - Then, Wrap in plastic bag to protect from scratches

White: 138741

230 - *****LAY DOWN CROSSTUBE ON TABLE AND PUT DT10302 PINS IN SADDLE HOLE FACING UP, USE HOLE IN TAPE MEASURE TO PUT IN PINS FOR LOCATING CENTER OF CROSSTUBE. ***** 1- Abrade mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg 2- Install supports with Proseal 890 per D212-664-241 and QSI 015 A/R Proseal 890 Batch: 138708 EXP: 5/18

PROSEAL CURE TIME 72 HOURS: Start: 18-2-10 Finish: 18-2-13 3- Install clamps with rubber cushion (ENSURE CLAMPS ARE INSTALL ON TOP SIDE OF CROSSTUBE) using DT9565 as per Dwg D212-664-241. ***Torque all clamps to 80-100 IN-LBS.***

240 - ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.***

260 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____

265 - Photocopy bluefile and create labels as per PPP D212-664-201 CHG006

270 - Identify and pack for shipping as per PPP D212-664-201 Location : FG098

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D212-664-201TRN	1	8	0	0
250-Packaging	AN6-40A	4	82	0	0
	AN6-41A	2	56	0	0
	D3428-1	1	19	0	0
	MS21042L6	6	226	0	0
	NAS1149D0663J	18	645	0	0

Part Specifications

Specifications could not be found.

D2840-1 5005843 (2)

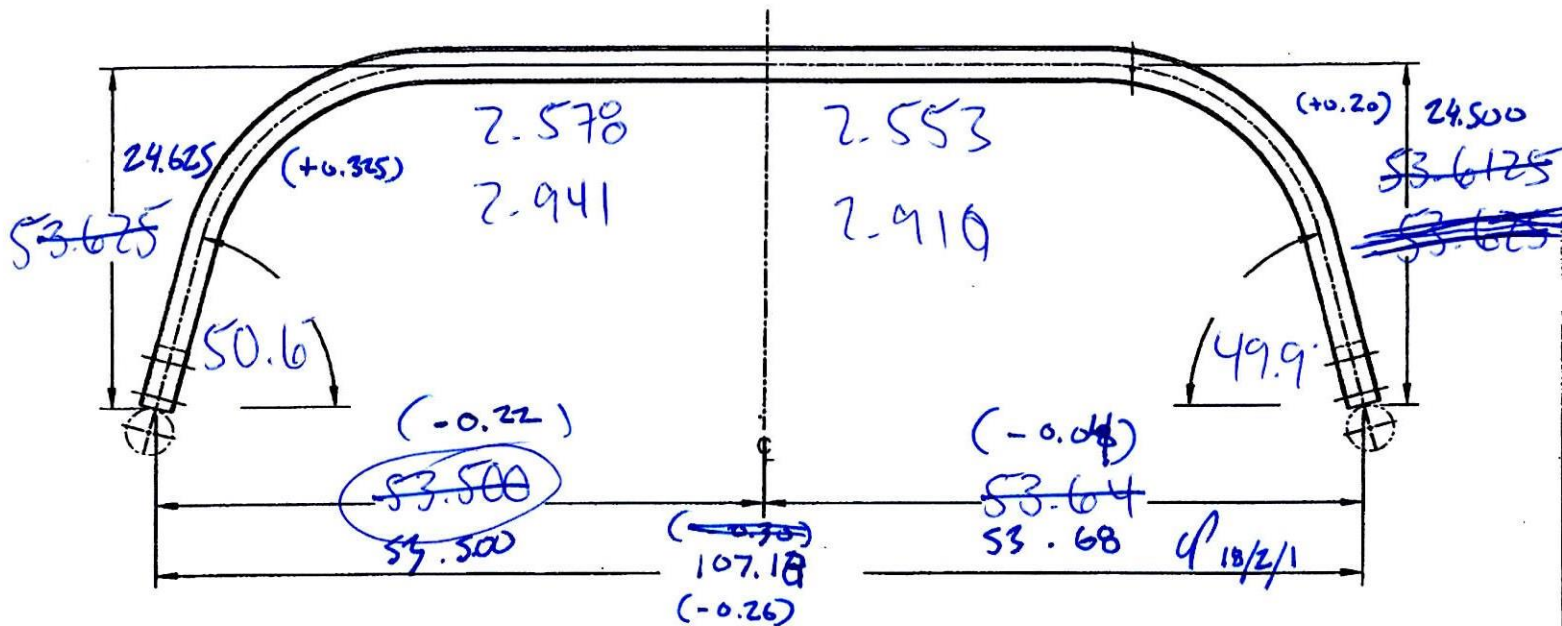
Plex 11/10/17 12:01 PM DART.LACELLE.LINDA

D3595-063-530 5007091 (4)

MS21920-28 5024479 (4)

DART AEROSPACE LTD		Work Order:	
Description: Crosstube High Aft (205/212)		Part Number:	D212-664-201
Inspection Dwg: D212-664-241 Rev: E		Page 1 of 1	

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70
Bending Passes	5	--
Crushing	--	7.2%



	Side A	Side B
Bending Passes	11	8
Crushing	6.3%	6.5%
Comments		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM	
C	10.04.01	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	
E	14.07.08	Crushing percentage revised	KJ	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>168063</u> Part No. <u>D212-664-201</u> NCR No. <u>18-6836</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☒</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☒	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																								
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Date: <u>18/2/1</u>	Step #: <u>120</u>	QTY Effective: <u>①</u>		MRB (QSI042) Approval DAS 12 9-89 <u>18/2/1</u>																																																																																								
Description Work Order Deviation <u>Crosstube is over bent.</u> <u>One bend is (-0.22) below nominal width & (+0.325) above nominal height</u> <u>Other bend is (-0.64) below nominal width (+0.20) above nominal height.</u>		Disposition <u>Acceptable.</u> <u>Tube is acceptable even at 0.18 Δ width and 0.125 Δ height. Additional height on aft tube increases tail clearance.</u> <u>Note that drag height tolerance should be ± 0.25 (drag type).</u>		Completed By DAS 12 9-89 <u>18/2/1</u> Lead hand / Supervisor Approval Verification <u>18-02-06</u> QC / QA Coordinator Approval <u>PD 18-02-06</u>																																																																																								
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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO038964**

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO038964
PO Date: 2/7/18
Due Date: 2/8/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lacelle, Linda
Phone: llacelle@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170234	D212-664-201	Aft Crosstube - High ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	2/8/18	1 pcs	0 pcs 1x	1 pcs AT 18/02/08	\$169.00/pcs	\$169.00
2	170233	D212-664-201	Aft Crosstube - High ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	2/8/18	1 pcs	0 pcs 1x	1 pcs AT 18/02/08	\$169.00/pcs	\$169.00
3	170232	D212-664-201	Aft Crosstube - High ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	2/8/18	1 pcs	0 pcs 1x	1 pcs AT 18/02/08	\$169.00/pcs	\$169.00
4	168063-A	D212-664-201	Aft Crosstube - High ***WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE.*** Issue P/O: LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	2/8/18	1 pcs	0 pcs 1x	1 pcs AT 18/02/08	\$169.00/pcs	\$169.00
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Grand Total:										\$845.00

Order Notes

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 2/8/18 10:22 AM dart.lacelle.linda



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Master Unit 000891

Tel (613) 632-5200

Containers on Master Unit 000891				
Serial No	Part No	Customer Part No	Status	Quantity
FM137507-2	AN6-40A		Allocated	1
S042419	AN6-40A		Allocated	3
S042417	AN6-41A		Allocated	2
S042416	D3428-1		Allocated	1
S042415	MS21042L6		Allocated	6
S042414	NAS1149D0663J		Allocated	18